

LISTING OF THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A connector for medical instruments, comprising:
a ~~medical instrument~~ adapted to be rendered active upon receipt of electric power from a power supply to allow a treating operation to be performed on a subject wherein the connector is removably attached to ~~[[;]]~~ a socket ~~connectable to the medical instrument~~ and having a first electrode to allow the electric power to be supplied to the medical instrument ~~[[;]]~~ and wherein the connector comprises:

a ~~plug provided on~~ projection protruding in a moving direction in which the medical instrument ~~[[and]]~~ is connected to the socket electrically connected to the power supply ~~to allow the electric power which is fed from the power supply to be supplied to the medical instrument, wherein;~~

a second electrode ~~the plug includes a second electrode having an exposed contact portion electrically connected connectable to the first electrode to allow the medical instrument to be rendered active, at least the~~ wherein an exposed contact portion of the second electrode being so located as is formed as an elongated portion as to extend that extends along ~~[[a]]~~ the moving direction, the exposed contact portion being located peripherally around the projection in which the socket is to be connected to the plug; and

an annular wall provided to surround at least the exposed contact portion of the second electrode a connector shell extending in the moving direction, about and spaced away from the projection in a manner that forms a groove therebetween.

2. (Currently Amended) A connector for a medical instrument system, according to claim 1, wherein the ~~first~~ second electrode comprises a plurality of electrode elements, ~~the second electrode comprises electrode elements corresponding in number to those of the first electrode; and when the socket and plug connector are connected to each other, the electrode~~

elements of the first and second electrodes are electrically connected together in mutually corresponding relation.

3. (Currently Amended) A connector for a medical instruments instrument, according to claim 2, wherein the plurality of electrode elements of the second electrode are provided on a peripheral surface the projection at least a portion of the electrode elements of the second electrode being exposed on the peripheral surface of the projection as to form the exposed contact portion ~~plug further comprises a projection with the electrode elements of the second electrode provided on a peripheral surface thereof, at least the electrode elements of the second electrode being partly exposed on the peripheral surface of the projection, and the annular wall and the projection are spaced apart a predetermined distance from each other to define a circumferential groove therebetween.~~

4. (Currently Amended) A connector for a medical instruments instrument, according to claim 3, wherein the height of the ~~annular wall~~ connector shell from a bottom surface of the ~~circumferential~~ groove is higher than that of the projection from the bottom of the ~~circumferential~~ groove.

5. - 7. (Canceled)

8. (Currently Amended) A connector for a medical instruments instrument according to claim 1, further comprising:

an element ~~provided to the plug~~ and configured to detect the type of medical instruments; instrument; and

a third electrode ~~provided to the plug~~ and electrically connected to the element; ~~and~~

a fourth electrode ~~provided to the socket~~ and electrically connectable to the third electrode.

9. **(Previously Presented)** A connector for medical instruments, according to claim 8, wherein the element has an electric resistor.

10. **(Currently Amended)** A connector for ~~a~~ medical ~~instruments~~ instrument, according to claim 1, further comprising:

an element configured to detect the type of medical instrument and provided ~~to the plug~~ so as to enable ~~[[an]]~~ electric power which is suitable for the medical instrument to be supplied from the power supply.

11. **(Previously Presented)** A connector for medical instruments, according to claim 10, wherein the element has an electric resistor.

12. **(Currently Amended)** A connector for medical instruments, comprising:
a socket removably attachable to medical instruments ~~a medical instrument~~ and adapted to be rendered active upon receipt of electric power ~~to perform a medical operation on a subject;~~
~~a socket having a first electrode for supplying an electric power from a power supply to~~
allow the electric power to be supplied to the medical instrument; and

a plug provided on the medical instrument and connected to the socket to allow the electric power which is fed from the power supply to be supplied to the medical instrument, wherein the plug includes

a projection provided at a central area;

a second electrode provided on a peripheral surface of the projection and having at least a portion exposed on the peripheral surface of the projection and electrically connectable to the first electrode to allow the medical instrument to be rendered active; and

a connector shell provided away from the projection, the connector shell and the projection ~~an annular wall provided to surround the peripheral surface of the projection, the annular wall and projection being spaced apart a predetermined distance from each other as to~~
form a to define a circular groove therebetween.

13. **(Previously Presented)** A connector for medical instruments, according to claim 12, wherein the first electrode comprises a plurality of electrode elements, the second electrode comprises electrode elements corresponding in number to those of the first electrode, and when the socket and plug engage each other, the elements of the first and second electrodes are electrically connected together in a mutually corresponding relation.

14. **(Currently Amended)** A connector for medical instruments, according to claim 12, wherein the height of the connector shell ~~annular wall~~ from a bottom surface of the circular groove is higher than that of the projection from the bottom ~~surface~~ of the circular groove.

15. **(Currently Amended)** A connector for medical instruments, according to claim 12, wherein the connector shell includes a first annular wall provided outside the projection as to surround the second electrode and the projection is inside the first annular wall, and wherein the socket further comprises a second annular wall engageable with the projection and formed with the first electrode.

16. **(Previously Presented)** A connector for medical instruments, according to claim 15, wherein the socket further comprises a third annular wall connectable with the first annular wall and higher than the second annular wall.

17. **(Previously Presented)** A connector for medical instruments, according to claim 15, wherein, when the socket is connected to the plug, the second annular wall engages the projection and the first electrode is electrically connected to the second electrode.

18. **(Previously Presented)** A connector for medical instruments, according to claim 12, further comprising:

- an element provided in the plug to detect the kinds of medical instruments;
- a third electrode provided in the plug and electrically connected to the element; and

a fourth electrode provided in the socket in such a way as to be electrically connectable with the third electrode.

19. (Previously Presented) A connector for medical instruments, according to claim 18, wherein the element is comprised of an electric resistor.

20. (Previously Presented) A connector for medical instruments, according to claim 12, further comprising: an element configured to detect the type of medical instrument and provided in the plug to enable an electric power which is suitable for the medical instrument to be fed from the power supply.

21. (Previously Presented) A connector for medical instruments, according to claim 20, wherein the element is comprised of an electric resistor.

22. (Currently Amended) A connector for medical instrument, according to claim [[1]] 12, wherein the second electrode is comprised of an elongated plate-like electrode extending in a moving direction in which the plug is connected to the socket.

23. (Currently Amended) A connector for medical instruments, according to claim [[1]] 12, wherein the first electrode is comprised of an elongated, elastic plate-like electrode extending in a moving direction in which the plug is connected to the socket.

24. (Previously Presented) A connector for medical instruments, according to claim 1, further comprising: a guide provided in the plug to restrict a moving direction of the socket when the socket is connected to the plug.

25. (Currently Amended) A connector for medical instruments, according to claim [[1]] 12, further comprising: a lock section provided in the plug and a lever provided in the socket to provide a latching engagement, wherein the lever includes a latching section for

allowing an automatic latching engagement to be made with the lock section when the plug is attached to the socket and an operation section for allowing the latched lever to be disengaged.

26. (Currently Amended) A connector for medical instruments, according to claim ~~[[1]]~~ 12, wherein the socket further comprises one cable for feeding an electric power from a power supply to a medical instrument to be used and the socket is connected to the cable and exchangeably connectable to a plurality of the same plug type of medical instruments.

27. (Currently Amended) A ~~connector for medical instruments~~ instrument, comprising:

an ultrasonic handpiece, the ultrasonic handpiece having a transducer for converting a drive current to ~~[[an]]~~ ultrasonic vibration, ~~a socket connected to a cable for feeding a drive current from a generator to the transducer, and~~ a plug removably attached to ~~the~~ a socket connected to a cable for feeding a drive current from a generator to the transducer, wherein the plug comprises, and an ultrasonic handpiece having the transducer and plug, the connector comprising:

a projection formed at ~~[[a]]~~ the central area of the plug;

~~an annular wall~~ a connector shell formed outside to surround the projection in a way to be spaced apart a distance from a peripheral area of the projection; and

an electric contact formed on ~~[[a]]~~ the peripheral area of the projection at a position surrounded ~~[[with]]~~ by the ~~annular wall~~ connector shell.

28. (Currently Amended) A ~~connector for medical instruments~~ instrument, according to claim 27, wherein the electric contact is provided on the peripheral surface of the projection and arranged parallel to a longitudinal axis of the handpiece.

29. (Currently Amended) A ~~connector for medical instruments~~ instrument, according to claim ~~[[28]]~~ 27, wherein the electric contact is arranged at a position spaced apart by

more than a width of the electric contact from a deep bottom of a ~~circumferential~~ groove defined between the ~~annular wall~~ connector shell and the projection and is exposed on the projection.

30. (Currently Amended) A ~~connector for medical instruments~~ instrument, according to claim 28, wherein the width of the ~~circumferential~~ groove defined between the projection and the connector shell ~~annular wall~~ is greater than the width of the electric contact but smaller than the diameter of the projection.

31. (Currently Amended) A ~~connector for medical instruments~~ instrument, according to claim 30, wherein the plug further comprises a fitting groove formed parallel to the longitudinal axis of the handpiece at a position between electric contacts arranged on the outer peripheral surface of the projection.

32. (Currently Amended) A ~~connector for medical instruments~~ instrument, according to claim 29, wherein the electric contact is arranged at a position spaced apart by more than the width of the electric contact, on the ~~deep~~ a bottom side of the ~~circumferential~~ groove, from the forward end surface of the projection.

33. (Currently Amended) A ~~connector for medical instruments~~ instrument, comprising:

an ultrasonic handpiece having a plug and a transducer for converting a drive current to an ultrasonic vibration[[,]];:

a socket connected to a cable for feeding the drive current from a generator to the transducer, wherein the [[a]] plug is removably attached to the socket[[,]]; ~~an ultrasonic handpiece having the transducer and plug;~~

a first electric contact provided in the socket, ~~and;~~

a second electric contact provided in the plug and electrically connected to the first electric contact,

~~wherein the plug has an annular wall formed around the electric contact to surround the electric contact a projection provided in the plug and protruding in a moving direction in which the medical instrument is connected to the socket; and~~

~~a connector shell provided in the plug and protruding in the moving direction wherein the connector shell is provided outside the second electric contact and leaves a predetermined distance relative to the projection as to form a groove therebetween.~~

34. (Currently Amended) A connector for medical instruments instrument, according to claim 33, wherein the plug further comprises an adapter provided on the outer periphery of the ~~annular wall~~ connector shell to allow the socket to be set in a latching engaged state.

35. (Currently Amended) A connector for medical instruments instrument, comprising:
an ultrasonic handpiece having a transducer for converting a drive current to an ultrasonic vibration[[,]];

~~an ultrasonic handpiece having the transducer; a plug provided [[on]] in the ultrasonic handpiece and having a first electric contact[[,]];~~

a handpiece socket removably attached to the plug,

a cable unit for supplying a drive current from a generator to the transducer[[,]]; and

a socket provided on the handpiece socket and having an inner space for allowing a connector projection of a plug section of the ultrasonic handpiece to be fitted therein,

wherein the socket includes a slit extending from an outer surface thereof into the inner space and a second electric contact provided in the slit to be set in contact with the first electric contact and the plug includes a projection protruding in a moving direction in which the plug is connected to the socket and the first electric contact is provided on a peripheral surface of the plug.

36. (Currently Amended) A ~~connector for medical instruments~~ instrument, according to claim 35, wherein one end of the second electric contact is fixedly supported in the socket and the other end portion thereof is elastically deformable.

37. (Currently Amended) A ~~connector for medical instruments~~ instrument, according to claim 36, wherein the slit is formed parallel to a longitudinal axis of the socket.

38. (Currently Amended) A ~~connector for medical instruments~~ instrument, according to claim 37, wherein the socket has a first annular wall and second annular wall, the second annular wall being situated inside the first annular wall and the slit being formed in the second annular wall.

39. (Currently Amended) A ~~connector for medical instruments~~ instrument, according to claim 38, wherein the second annular wall is lower than the first annular wall.

40. (Currently Amended) A ~~connector for medical instruments~~ instrument, according to claim 38, wherein the socket further comprises a circular packing located at a bottom between the first annular wall and the second annular wall to maintain a water-tight seal between a casing and the socket.